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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/851,432	05/09/2001	Jorg Dietrich	LINDE-566	2115

23599 7590 06/19/2003

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EXAMINER

DUONG, THO V

ART UNIT	PAPER NUMBER
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3743

15

DATE MAILED: 06/19/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/851,432

Applicant(s)

DIETRICH, JORG

Examiner

Tho v Duong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 April 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 8, 12, 13 and 15-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 8, 12, 13 and 15-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8,12,13 and 16-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Davidian et al. (US 6,347,662) in view of Takahashi Eiji (JP 04081288) and Dynamit Nobel.

Davidian discloses (figure 1 and column 1, lines 19-21) a plate heat exchanger block comprising a housing; a plurality of aluminum sheets (8) forming a plurality of heat-exchange passages; at least one steel header (1) in communication with at least some of the heat exchange passages wherein steel header and aluminum sheet can not be welded to one another. Davidian does not disclose that a connecting piece consisting of steel on one side and aluminum on the other side so that steel header is welded to the steel side of the connecting piece. Takahashi teaches (figure 7) about using a connecting piece (3) consisting of steel on one side (4) and aluminum on the other side (5) so that steel material (1) is welded to the steel side (4) and aluminum material (2) is welded to the aluminum side (5) to develop sufficient joint strength between aluminum and steel.

It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Takahashi's teaching in Davidian's heat exchanger develop sufficient joint strength between aluminum and steel. Takahashi does not disclose that the aluminum and the steel side are bonded together by explosive bonding. Dynamit Nobel teaches to bond steel and aluminum

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materials together by explosive bonding to produce a firm bond in order to enhance the joint strength between aluminum and steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Dynamit Nobel's teaching in the combination device of Davidian and Takahashi to produce a firm bond in order to enhance the joint strength between aluminum and steel.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Showa Alum Corp (JP 404263720A) in view of Takahashi Eiji (JP 04081288) and Dynamit Nobel. Showa Alum discloses a heat exchanger header for attachment to a heat exchanger having aluminum components, the heat exchanger header (22,23) consisting essentially of steel brazing to an aluminum parts (5) of the heat exchanger. Showa does not disclose a connecting piece having aluminum on one side and steel on one side being explosive bonded together. Takahashi teaches (figure 7) about using a connecting piece (3) consisting of steel on one side (4) and aluminum on the other side (5) so that steel material (1) is welded to the steel side (4) and aluminum material (2) is welded to the aluminum side (5) to develop sufficient joint strength between aluminum and steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Takahashi's teaching in Davidian's heat exchanger develop sufficient joint strength between aluminum and steel. Takahashi does not disclose that the aluminum and the steel side are bonded together by explosive bonding. Dynamit Nobel teaches to bond steel and aluminum materials together by explosive bonding to produce a firm bond in order to enhance the joint strength between aluminum and steel. It would have been obvious to one having ordinary skill in the art at the time the invention was made to use Dynamit Nobel's teaching in

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the combination device of Davidian and Takahashi to produce a firm bond in order to enhance the joint strength between aluminum and steel.

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Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Banker discloses an aluminum/steel transition joint.

Izuma et al. (US 4,010,965) discloses a pipe joint for connecting different kind of metallic pipes.

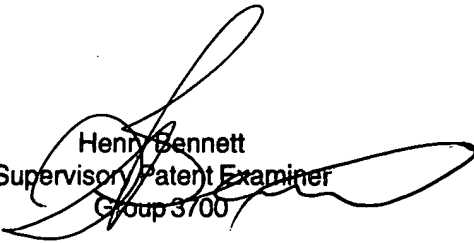
Any inquiry concerning this communication or earlier communication from the examiner should be directed to Tho Duong whose telephone number is (703) 305-0768. The examiner can normally be reached on from 9:30-6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Henry Bennet, can be reached on (703) 308-0101. The fax phone number for the organization where this application or proceeding is assigned is (703)308-7764.

Any inquiry of a general nature or relating to status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-0861.

Tho Duong

June 14, 2003
”


Henry Bennett
Supervisory Patent Examiner
Group 3700